AMENDMENTS TO THE CLAIMS

Please replace the claims with the following rewritten listing:

1. (Currently Amended) A method of controlling a prosthesis, comprising using electromyographic (EMG) signals to generate control signals for one or more ~~prostheses~~ prosthesis components wherein the electromyographic (EMG) signals are received by ~~one or more~~a plurality of sets of electrodes dedicated to a source of electromyographic (EMG) signals, wherein said sets of dedicated electrodes are placed subcutaneously, epimesially or intramuscularly.

2. (Cancelled)

3. (Currently Amended) Method according to claim 1, wherein said ~~one or more~~ sets of dedicated electrodes are implanted in a muscle or muscles.

4. (Currently Amended) Method according to claim 1, wherein the electromyographic (EMG) signals from said ~~one or more~~ sets of dedicated electrodes are transmitted to signal processing means by wireless transmission.

5. (Currently Amended) Method according to claim 4, wherein the electromyographic (EMG) signals from said ~~one or more~~ sets of dedicated electrodes are processed by signal processing means, and wherein control signals for the one or more prosthesis components ~~prostheses~~ are produced, said signal processing means utilizing a pattern recognition method.

6. (Currently Amended) Method according to claim 5, wherein the control signals ~~of~~ for the ~~prostheses~~ one or more prosthesis components are generated by utilizing an artificial neural network (ANN).

7. (Previously Presented) Method according to claim 1, wherein the electromyographic (EMG) signals are received by four or more sets of dedicated electrodes placed in relation to at least four muscles or distinct functional muscle compartments.

8. (Currently Amended) Method according to claim 7, wherein said ~~prostheses~~ one or more prosthesis components comprise at least one of an artificial arm and/~~or~~ a hand and wherein said ~~one or more~~ sets of dedicated electrodes are placed in relation to at least the following muscles: Flexor Digitorum, Extensor Digitorum, Flexor Pollicis Longus and Extensor Pollicis Longus.

9. (Currently Amended) Method according to claim 7, wherein said ~~prostheses~~ one or more prosthesis components comprise at least one of an artificial arm and/~~or~~ a hand and wherein said ~~one or more~~sets of electrodes are placed in relation to at least the following muscles: Flexor Digitorum, Extensor Digitorum, Flexor Pollicis Longus, Extensor Pollicis Longus, Pronator Teres, Supinator, Flexor Carpi Radialis and Extensor Carpi Radialis.

10. (Currently Amended) Method according to claim 1, wherein ~~two or more~~said sets of dedicated electrodes are placed in relation to at least one muscle, said ~~two or more~~sets of dedicated electrodes being placed in relation to different parts of said at least one muscle.

11. (Previously Presented) Method according to claim 1, wherein electroneurographic (ENG) signals are received by one or more separate sets of ENG-electrodes and said ENG-signals are used as complimentary signals for generating control signals.

12. (Currently Amended) A system for controlling a prosthesis, wherein electromyographic (EMG) signals are used to generate control signals for one or more artificial limbs, the system comprising ~~one or more~~a plurality of sets of electrodes, each dedicated to a source of electromyographic (EMG) signals for receipt of the electromyographic (EMG) signals, wherein said sets of dedicated electrodes are configured for subcutaneous, epimesial or intramuscular placement.

13. (Cancelled)

14. (Currently Amended) System according to claim 12, wherein said ~~one or more~~ sets of dedicated electrodes ~~is~~/are configured for an implantation in a muscle or muscles.

15. (Currently Amended) System according to claim 12, further comprising means for transmitting the electromyographic (EMG) signals from said ~~one or more~~ sets of dedicated electrodes to signal processing means by wireless transmission.

16. (Currently Amended) System according to claim 12, further comprising signal processing means for producing control signals for the one or more artificial limbs~~(s)~~, said signal processing means utilizing a pattern recognition method.

17. (Currently Amended) System according to claim12, further comprising an artificial neural network (ANN) for generating control signals for the one or more artificial limbs~~(s)~~.

18. (Currently Amended) System according to claim 12, wherein the system comprises four or more sets of dedicated electrodes adapted to be placed in relation to at least four muscles or functionally distinct muscle compartments for receipt of electromyographic (EMG) signals.

19. (Currently Amended) System according to claim 18, wherein said ~~prostheses~~ one or more artificial limbs comprise at least one of an artificial arm and~~/or~~ a hand and wherein ~~one or more~~said sets of electrodes ~~is~~/are adapted to be placed in relation to at least the following muscles: Flexor Digitorum, Extensor Digitorum, Flexor Pollicis Longus and Extensor Pollicis Longus.

20. (Currently Amended) System according to claim 18, wherein said ~~prostheses~~ one or more artificial limbs comprise at least one of an artificial arm and~~/or~~ a hand and wherein

~~one or more~~said sets of electrodes ~~is~~/are adapted to be placed in relation to at least the following muscles: Flexor Digitorum, Extensor Digitorum, Flexor Pollicis Longus, Extensor Pollicis Longus, Pronator Teres, Supinator, Flexor Carpi Radialis and Extensor Carpi Radialis.

21. (Currently Amended) System according to claim 12, wherein ~~the system comprises two or more~~said sets of dedicated electrodes are placed in relation to at least one muscle, and said ~~two or more~~ sets of dedicated electrodes ~~is~~/are placed in relation to different parts of said at least one muscle.

22. (Previously Presented) System according to claim 12, further comprising one or more sets of electroneurographic (ENG) electrodes for receiving electroneurographic (ENG) signals wherein said ENG-signals are used as complimentary signals for generating control signals.